

Claims

- [1] A multi mode multi band mobile communication terminal which can communicate with the asynchronous mobile communication system and the synchronous mobile communication system, and which performs hand-over between the asynchronous mobile communication system and the synchronous mobile communication system, comprising:
during communicating with the asynchronous mobile communication system, if conditioned in a predetermined hand-over, an asynchronous modem outputting a modem operating signal for operating a modem to transfer and receive the signal of the synchronous mobile communication system; and
a synchronous modem operated in an off-state according to the modem operating signal outputted from the asynchronous mobile communication system and then transited to a low power mode, which is a standby mode, wherein said multi mode multi band mobile communication terminal performs the hand-over to the multi mode multi band mobile communication terminal according to the hand-over triggering from the asynchronous mobile communication system by the synchronous modem in the standby mode.
- [2] The multi mode multi band mobile communication terminal according to claim 1, characterized in that if the asynchronous modem transmits or receives signals to and from the asynchronous mobile communication system for setting a call, it determines that the hand-over condition is satisfied.
- [3] The multi mode multi band mobile communication terminal according to claim 2, characterized in that after operating the modem and performing a hand-over, the synchronous modem transmits and receives signals to and from the synchronous system and maintain the call setting state.
- [4] The multi mode multi band mobile communication terminal according to claim 1, characterized in that the mobile communication terminal enters the asynchronous mobile communication system area and hand-over cell, which is a boundary area of the synchronous mobile communication system area, the synchronous modem automatically requests to operate the synchronous modem.
- [5] The multi mode multi band mobile communication terminal according to claim 4, characterized in that after operating the modem and performing the hand-over, the synchronous modem maintains the idle state.
- [6] The multi mode multi band mobile communication terminal according to claim 1, characterized in that the low power mode of the synchronous modem represents that although the power of the synchronous modem is on, transmitting and receiving of information are suspended and a CPU operation of the modem

is stopped.

- [7] A hand-over method of a multi mode multi band between a synchronous communication network and a synchronous communication network, which can communicate with a asynchronous mobile communication system and a synchronous mobile communication system, and which comprises an asynchronous modem and a synchronous modem in a mobile communication network where a predetermined size of hand-over cell exists between the asynchronous mobile communication system and the synchronous mobile communication system, comprising:
a first step of determining the condition of the hand-over; and
if the hand-over condition is determined in the first step, a second step of operating the synchronous communication network of the mobile communication terminal and transited to a low power mode, which is a standby mode, wherein said the hand-over method performs the hand-over to the synchronous mobile communication system according to the triggering of the hand-over from the asynchronous mobile communication system by the synchronous modem in the standby mode.
- [8] The hand-over method of a multi mode multi band between na asynchronous communication network and a synchronous communication network according to claim 7, wherein the first step is characterized in that if the asynchronous modem transmits or receives signals to and from the asynchronous mobile communication system for setting a call, it determines that the hand-over condition is satisfied, and requests to the synchronous modem to be operated.
- [9] The hand-over method of a multi mode multi band between an asynchronous communication network and a synchronous communication network according to claim 8, characterized in that after operating the modem and performing the hand-over, the synchronous modem transmits and receives signals to and from the synchronous system and maintain the call setting state.
- [10] The hand-over method of a multi mode multi band between a synchronous communication network and a synchronous communication network according to claim 7, wherein the first step is characterized in that if the asynchronous modem enters a hand-over cell, which is a boundary area of a asynchronous mobile communication system area and a synchronous mobile communication system area, the asynchronous modem automatically requests the synchronous modem to be operated.
- [11] The hand-over method of a multi mode multi band between a synchronous communication network and a synchronous communication network according to claim 11, characterized in that after operating the modem and performing the

hand-over, the synchronous modem maintains the idle state.

[12] The hand-over method of a multi mode multi band between a synchronous communication network and a synchronous communication network according to claim 11, characterized in that a low power mode of the synchronous modem represents that although the power of the synchronous modem is on, transmitting and receiving of information are suspended and a CPU operation of the modem is stopped.

[13] A hand-over method of a multi mode multi band between the synchronous communication network and the synchronous communication network, which can communicate with the asynchronous mobile communication system and the synchronous mobile communication system, and which comprises an asynchronous modem and a synchronous modem in a mobile communication network where a predetermined size of hand-over cell exists between the asynchronous mobile communication system and the synchronous mobile communication system according to the other embodiment of the present invention, comprising the step of, when the mobile communication terminal performs the hand-over from the asynchronous mobile communication system to the synchronous mobile communication system, transferring an initial power value received by the asynchronous modem of the mobile communication system from the asynchronous mobile communication system, wherein the synchronous mobile communication system comprises the steps of:
receiving a connection requesting signal transferred by an initial transmitting power value of the mobile communication terminal calculated based on the initial power value from the mobile communication terminal and transferring a response to the connection requesting signal to the mobile communication terminal; and
transmitting and receiving a traffic between the synchronous mobile communication system and the mobile communication terminal.

[14] The hand-over method of a multi mode multi band between the asynchronous communication network and the synchronous communication network according to claim 13, characterized in that:
the initial transmitting power value is calculated by subtracting an average power value of the synchronous modem from the initial electric power;
the average receiving power value of the synchronous modem is calculated by the power value transmitted from the base transceiver station of the synchronous communication mobile system where the synchronous modem locates; and
the initial power value is determined by the average value of the power value outputted from the mobile communication terminal in the asynchronous mobile

communication system.

- [15] The hand-over method of a multi mode multi band between the synchronous communication network and the synchronous communication network according to claim 13, characterized in that:
- the initial transmitting power value calculated by the mobile communication terminal is calculated by subtracting the average receiving value of the synchronous modem from the initial power value and further adding an offset power thereto;
- the average receiving power value of the synchronous modem is the average value of the power value transmitted from the base transceiver station to be received where the synchronous modem locates, and the initial power value is determined by the average of the power value outputted from the asynchronous mobile communication system to the mobile communication terminal; and
- the initial transmitting value is corrected by the offset power.
- [16] The hand-over method of a multi mode multi band between the asynchronous communication network and the synchronous communication network according to claim 13, characterized in that at the time of the hand-over of the mobile communication terminal, the initial power value is transmitted together with a hand-over requesting message transmitted from the asynchronous mobile communication system to the mobile communication terminal.